#77087

CRUISE REPORT - PUERTO RICO PROJECT

Boat
Ship - McKee

Cruise number: 77-09

Objective: Investigation of sand waves on pipeline route, Escollo de Arenas, northwest of Vieques Island, Puerto Rico. Map and measure sand waves, sample them, set stakes to detect motion/sediment transport, photograph & observe them by SCUBA, measure tide heights, sample water on different tides to measure suspended sediment.

Dates: 7 - 16 November 1977

Vessel and ship-days: 19-foot center-console outboard McKee. To Vieques by trailer and ferry; lived ashore at Naval Base. 5 ship days, 25 man-days.

Personnel: James Trumbull and Kurt Grove (PR-DNR), Co-Chief Scientists Gary Prisby of USGS/Woods Hole, José Muñiz and Nelson Espinell of PR-DNR

Equipment: Portable battery-driven echo-sounder, SCUBA gear, hammer and stakes, water sampler, portable 2-way radios, transit and plane table (ashore), tide guage, flag buoys.

Results, comments: Profiled, described, and sampled shifting sand shoal, particularly 4 sand waves in central part, on pipeline route. Set stakes for future observations of motion. Determined that our navigation by flag-buoy range crossed with plane-table radials received from shore by radio were adequate to recover position of stakes. Determined that coarse sand is in oscillatory motion on each semi-diurmal tidal current, and that secondary 2-meter waves are in motion. Sampled water on excurrent and excurrent tides for suspended sediment measurement. Recorded rise and fall of tides. Measurement of velocity of tidal currents, conspicuously absent this cruise, will be done in future when meters ready.

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